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PRINCIPAL INVESTIGATOR: Judith K. Nyquist, Ph.D.

CONTRACTING ORGANIZATION: National Academy of Sciences
Washington, DC 20418-0006

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Table of Contents

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

National Research Council
RESEARCH ASSOCIATESHIP PROGRAM

with the

U.S. Army Medical Research and Materiel Command (AMRMC)

Annual Contract Technical Report

1/24/2004 – 1/23/2005

DAMD17-00-2-0002

Publicity

The National Academies Research Associateship Programs for the report period were announced to the scientific community, beginning in the fall of the preceding year. Publicity materials describing the National Research Council-U.S. Army Medical Research and Materiel Command (AMRMC) Programs were distributed in November to presidents, graduate deans, and heads of appropriate science and engineering departments and minority-affairs offices of all academic degree-granting institutions in the United States. An e-mail announcement of the programs was sent to these same contact points prior to each review deadline. Promotional materials were sent to Laboratory Program Representatives, Associateship Advisers, and other interested persons. General advertisements of programs were placed in leading scientific and engineering publications. Publicity materials and other related information were made available on the internet. Research Associateship Programs staff attended numerous society meetings and minority recruitments to promote the various programs and meet with prospective applicants throughout the year.

Requests

Application materials were distributed in response to specific requests for information about the AMRMC Research Associateship Program or as a result of general requests by persons whose fields of specialization appeared to be appropriate for the research opportunities available in the AMRMC laboratories.

Competition

Panel reviews of applicants for the Research Associateship Programs, including those with the U.S. Army Medical Research and Materiel Command, are conducted four times each year. The following is a breakdown of the action taken with the applications to the U.S. Army Medical Research and Materiel Command during the reporting period.

	Mar review of Feb app-04	May review of June app-04	Sept review of Aug app-04	Jan review of Nov app-04	TOTAL
TOTAL APPLICATIONS	**1**	**11**	**6**	**4**	**22**
Number of Applications Reviewed	**0**	**10**	**5**	**3**	**18**
Applications not recommended (did not pass Review)	1	0	1	1	**3**
Applications Recommended (passed Review)	**0**	**10**	**5**	**3**	**18**
Awards offered	0	8	3	0	**11**
Awards accepted	0	7	3	0	**10**
Awards declined	0	1	0	0	**1**
Awards withdrawn by RAP (NRC officially withdrew award *after* it had been accepted.)	0	0	0	0	**0**

Associates' Citizenship

Associates on tenure between 1/24/2004 and 1/23/2005 were citizens of the following countries:

41 U.S. citizens
14 Non U.S. citizens

1 Pending Permanent Resident
1 India

2 Non J-1 research scholars
1 Australia
1 Bangladesh

11 J-1 research scholars
2 Australia
1 Brazil
1 France
2 Israel
1 Italy
1 People's Republic of China
2 Russia
1 Ukraine

Associates' Activities

Associates who ended tenure during the report period were on tenure for an average of 29 months, ranging from 11 months to 44 months.

Of the 18 Associates who ended tenure during the report period, 10 submitted final reports. In the final reports, Associates indicated the following scholarly activity while on tenure.

11	Articles published in peer-reviewed journals	**5**	International presentations
4	Patent applications	**21**	Domestic presentations
		2	Awards

After ending their tenure, Associates indicated their future plans as follows:

2	Remain at host agency as perm. employee	**0**	Research/teaching-foreign college/university
3	Remain at host agency as contract employee	**2**	Research/admin in industry
0	Research position at other US gov't. lab	**0**	Research/admin in non-profit organization
0	Administrative position at US gov't. lab	**1**	Postdoctoral research
1	Research position at foreign gov't. lab	**0**	Self employed
1	Research/teaching-US college/university	**0**	Other (may include unemployed)

In their final reports, Associates were asked to evaluate certain aspects of their experiences on a scale of 1 (low) to 10 (high). The average rating for each item follows:

7.8	*Short-term value:*	Development of knowledge, skills, and research productivity
8.7	*Long-term value:*	How your Research Associateship affected your career to date
8.3	*Laboratory:*	Quality of the support you received from the federal laboratory
9.1	*RAP:*	Quality of the support you received from the Research Associateship Programs

Advisers also were asked to complete an evaluation of the Associate. The following summarizes the Adviser evaluations for Associates ending tenure during the report period. Of the 18 Associates who ended tenure, 10 Adviser evaluations were completed. Assessments were made on six criteria using the following rating scale: 1-below average, 2-average, 3-above average, 4-good, and 5-outstanding/exceptional. The average rating for each item follows:

3.7	Knowledge of field	**3.8**	Independence
3.7	Innovative thinking	**3.8**	Motivation
3.7	Research techniques	**3.9**	Overall scientific ability

The Adviser was asked, "Would you like this Associate as a professional colleague?" The Advisers responded in the following manner:

7	Yes	**1**	No Comment
1	No	**1**	No Answer

Additional information about the Associates' activities can be found in the attachments described below and the Appendix.

Attachment 1: Associates who were on tenure between 1/24/2004 and 1/23/2005. Included are the Associate's laboratory center/division location, the starting and termination dates, and the names of their advisers. For those Associates who ended tenure during the report period, it is noted if the final and adviser evaluation reports have been received. Associates are required to submit final reports upon termination of tenure, and advisers are asked to submit a final evaluation of each Associate. Associates who have not submitted a final report have received follow-up correspondence.

Attachment 2: All recommended candidates by category (e.g., Recommended, Accepted, No Funding, Declined, etc.). This report includes information about citizenship, the PhD institution, the title of proposed research, proposed or actual starting date, and adviser.

Attachment 3: Summaries of Associate patent activity, if any, and Associate research during tenure as reported on the Associates' termination reports. The summary of patent activity includes the patent application title, inventor(s), and date of application.

Appendix: Final reports received from the Associates who ended tenure during the report period.

Associates On Tenure 1/24/2004 - 1/23/2005 Attachment 1

U.S. Army Medical Research and Materiel Command

2/22/2005

Associate Name+ Adviser	Center	Tenure Dates Start/End	Termination Report	Adviser Report
Batchinsky, Andriy Ivanovich *Dr. Leopoldo C. Cancio*	U.S. Army Institute of Surgical Research	1/9/2001 - 1/8/2004	Not Recd	Not Recd
Beitzel, Brett Forrest *Dr. Connie S. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	1/12/2004 - 1/11/2006		
Bhonsle, Jayendra Bhausaheb *Dr. Apurba K. Bhattacharjee*	(S) Walter Reed Army Institute of Research	7/6/2004 - 7/5/2005		
Brittingham, Katherine Tracey Cecil *Dr. Sina Bavari*	U.S. Army Medical Research Institute of Infectious Diseases	9/11/2003 - 9/10/2005		
Chen, Yue-Qin *Dr. Thomas H. Hudson*	(S) Walter Reed Army Institute of Research	2/11/2003 - 8/10/2005		
Coberley, Sadie Shea *Dr. Alan L. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	7/29/2002 - 8/27/2004	Received	Received
Cote, Christopher Kevin *Dr. Susan L. Welkos*	U.S. Army Medical Research Institute of Infectious Diseases	4/29/2002 - 4/28/2005		
Curtis, Kristopher Michael *Dr. Thomas W. Geisbert*	U.S. Army Medical Research Institute of Infectious Diseases	8/15/2003 - 8/14/2005		
Dupuy, Lesley Conrad, Jr *Dr. Connie S. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	5/2/2003 - 5/1/2005		
Emerson, Ginny Leigh *Dr. M. S. Ibrahim*	U.S. Army Medical Research Institute of Infectious Diseases	3/1/2004 - 2/28/2006		
Fisher, Robert Walt St. George, IV *Dr. Lisa E. Hensley*	U.S. Army Medical Research Institute of Infectious Diseases	3/14/2001 - 11/5/2004	Not Recd	Not Recd
Foley, Desmond Hector *Dr. Richard C. Wilkerson*	(S) Walter Reed Army Institute of Research	2/17/2004 - 2/16/2006		
Fritz, Elizabeth Ann *Dr. Lisa E. Hensley*	U.S. Army Medical Research Institute of Infectious Diseases	3/3/2003 - 3/2/2006		
Goff, Arthur James *Dr. Lisa E. Hensley*	U.S. Army Medical Research Institute of Infectious Diseases	8/20/2004 - 8/19/2005		
Gonzalez, Liza Marie *Dr. Connie S. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	1/8/2001 - 3/7/2004	Not Recd	Not Recd
Gooch, Jan Woodall *Dr. Michael A. Dubick*	(S) U.S. Army Institute of Surgical Research	7/23/2001 - 7/22/2004	Received	Not Recd
Hillier, Collette Jane *Dr. David E. Lanar*	Walter Reed Army Institute of Research	2/12/2001 - 8/11/2004	Not Recd	Received
Hoard-Fruchey, Heidi Marie *Dr. Michael Adler*	U.S. Army Medical Research Institute of Chemical Defense	7/19/2004 - 7/18/2005		
Islam, Dilara *Dr. Ladaporn Bodhidatta*	(S) Walter Reed Army Institute of Research	9/4/2001 - 9/3/2004	Received	Not Recd
Jensen, Victoria Margaret *Dr. Jay W. Hooper*	U.S. Army Medical Research Institute of Infectious Diseases	7/19/2004 - 7/18/2005		
Johnson, Erik Andrew *Dr. Gary A. Rockwood*	U.S. Army Medical Research Institute of Chemical Defense	1/3/2005 - 1/2/2006		
Jung, Bruce John *Dr. Tsung-Ming A. Shih*	U.S. Army Medical Research Institute of Chemical Defense	7/14/2003 - 7/13/2005		

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no intry on the Award Init Screen but data on the Post Tenure Screen.

Associates On Tenure 1/24/2004 - 1/23/2005 Attachment 1

U.S. Army Medical Research and Materiel Command

2/22/2005

Associate Name+ Adviser	Center	Tenure Dates Start/End	Termination Report	Adviser Report
Kalina, Warren Vincent *Dr. Alan L. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	9/10/2004 - 9/9/2005		
Keener, William Kelvin *Dr. Mark A. Poli*	(S) U.S. Army Medical Research Institute of Infectious Diseases	10/1/2004 - 9/30/2005		
Keller, Michael Anthony *Dr. Alan L. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	12/9/2002 - 3/19/2004	Received	Not Recd
Klas, Sheri Denet *Dr. Robert G. Ulrich*	U.S. Army Medical Research Institute of Infectious Diseases	12/6/2004 - 12/5/2005		
Lackner, Daniel Francis *Dr. Alan L. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	6/3/2002 - 6/2/2005		
LaJambe, Cynthia Marie *Dr. Nancy J. Wesensten*	Walter Reed Army Institute of Research	1/3/2001 - 1/2/2004	Not Recd	Not Recd
Langston, Jeffrey Lamar *Dr. Gary A. Rockwood*	U.S. Army Medical Research Institute of Chemical Defense	5/12/2003 - 5/11/2005		
Leader, Haim Nissan *Dr. Richard K. Gordon*	(S) Walter Reed Army Institute of Research	11/4/2002 - 7/2/2005		
Manley, Heather *Dr. Michael Adler*	U.S. Army Medical Research Institute of Chemical Defense	9/9/2002 - 8/4/2004	Received	Not Recd
McClung, James Page *Dr. Andrew J. Young*	U.S. Army Research Institute of Environmental Medicine	3/22/2004 - 3/21/2006		
Minsavage, Gary Dominic *Dr. James F. Dillman, III*	U.S. Army Medical Research Institute of Chemical Defense	9/1/2004 - 8/31/2005		
Miroshnikova, Olga Vyatcheslavovn *Dr. Ai J. Lin*	Walter Reed Army Institute of Research	2/25/2003 - 2/24/2006		
Moran, Daniel S. *Dr. Larry G. Berglund*	(S) U.S. Army Research Institute of Environmental Medicine	9/22/2003 - 8/20/2004	Received	Received
Morefield, Garry Lee *Dr. Robert G. Ulrich*	U.S. Army Medical Research Institute of Infectious Diseases	5/12/2004 - 5/11/2005		
Mores, Christopher Nicolas *Dr. Michael J. Turell*	U.S. Army Medical Research Institute of Infectious Diseases	8/1/2002 - 7/31/2004	Received	Received
Myers, Todd Matthew *Dr. Richard A. Bauman*	Walter Reed Army Institute of Research	5/15/2000 - 5/14/2004	Received	Not Recd
Nephew, Benjamin C. *Dr. Lisa R. Leon*	U.S. Army Research Institute of Environmental Medicine	10/12/2004 - 10/11/2005		
O'Brien, David Kenneth *Dr. Arthur M. Friedlander*	U.S. Army Medical Research Institute of Infectious Diseases	7/1/2003 - 6/30/2005		
Olinger, Gene Garrard, Jr *Dr. Mary K. Hart*	U.S. Army Medical Research Institute of Infectious Diseases	6/4/2001 - 6/3/2004	Received	Received
Peachman, Kristina Kathryn *Dr. Carl R. Alving*	Walter Reed Army Institute of Research	6/1/2001 - 11/30/2004	Received	Received
Pearson, Brooke *Dr. Arthur M. Friedlander*	U.S. Army Medical Research Institute of Infectious Diseases	7/14/2003 - 7/13/2005		
Russell, Bruce *Dr. Jetsumon P. Sattabongkot*	Walter Reed Army Institute of Research	4/11/2002 - 6/12/2004	Not Recd	Received

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no intry on the Award Init Screen but data on the Post Tenure Screen.

Associates On Tenure 1/24/2004 - 1/23/2005 Attachment 1

U.S. Army Medical Research and Materiel Command

2/22/2005

Associate Name+ Adviser	Center	Tenure Dates Start/End	Termination Report	Adviser Report
Sallum, Maria Anice *Dr. Richard C. Wilkerson*	(S) Walter Reed Army Institute of Research	8/4/2003 - 8/27/2004	Received	Received
Sharkey, Curtis Matthew *Dr. Sina Bavari*	U.S. Army Medical Research Institute of Infectious Diseases	7/12/2004 - 7/11/2005		
Shurtleff, Amy Christine *Dr. Mary C. Guttieri*	U.S. Army Medical Research Institute of Infectious Diseases	5/21/2002 - 5/20/2005		
Silvestri, Lynn Shiels *Dr. Alan L. Schmaljohn*	U.S. Army Medical Research Institute of Infectious Diseases	9/7/2004 - 9/6/2005		
Swenson, Dana Linne *Dr. Sina Bavari*	(S) U.S. Army Medical Research Institute of Infectious Diseases	3/13/2002 - 3/12/2005		
Tonduli, Laura Sabina *Dr. Bhupendra P. Doctor*	Walter Reed Army Institute of Research	2/17/2004 - 2/16/2006		
Ulrich, Ricky Lee *Dr. David DeShazer*	U.S. Army Medical Research Institute of Infectious Diseases	7/16/2001 - 11/26/2004	Not Recd	Received
Warfield, Kelly Lyn *Dr. Sina Bavari*	U.S. Army Medical Research Institute of Infectious Diseases	6/17/2002 - 6/16/2005		
Wenke, Joseph Carl *Dr. Victor A. Convertino*	U.S. Army Institute of Surgical Research	5/29/2003 - 6/28/2004	Received	Received
Yershov, Andrey Lvovich *Dr. Michael A. Dubick*	(S) U.S. Army Institute of Surgical Research	10/15/2001 - 4/12/2005		
Zollner, Gabriela Elaine *Dr. James W. Jones*	Walter Reed Army Institute of Research	4/22/2002 - 2/21/2005		

55 Associates Listed

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no intry on the Award Init Screen but data on the Post Tenure Screen.

May 2004

3- Withdrew before Review

BUCHANAN, JESSICA B — Ph.D. Date: 2004
Citizenship: United States — University of Delaware
Adviser: Dr. Lisa R. Leon
Research Field: Animal Physiology
Research Title: Mechanisms of Heat Stress Recovery in Mice

1- Recommended (2 Applicants listed)

GALLO, STEPHEN A — Ph.D. Date: 1999
Citizenship: United States — State Univ of New York-Buffalo
Adviser: Dr. Sina Bavari
Research Field: Biochemistry Biophysics
Research Title: Elucidation of Filoviral Entry Mechanism

NICOLL, WILLIAM S — Ph.D. Date: 2002
Citizenship: New Zealand — Otago,U Of
Adviser: Dr. David E. Lanar
Research Field: Biochemistry
Research Title: Characterization of Plasmodium Falciparum Liver Stage Antigen LSA-1

A- Accepted Award (7 Applicants listed)

GOFF, ARTHUR J — Ph.D. Date: 2004
Citizenship: United States — State U of New York-Stony Brook
Adviser: Dr. Lisa E. Hensley — Actual Starting Date: 8/20/04
Research Field: Virology — Termination Date: 8/19/05
Research Title: Clinical Management Plan for Orthopox Virus Infection

HOARD-FRUCHEY, HEIDI M — Ph.D. Date: 2002
Citizenship: United States — Mayo Graduate School/MN
Adviser: Dr. Michael Adler — Actual Starting Date: 7/19/04
Research Field: Biological Sciences — Termination Date: 7/18/05
Research Title: Characterization of Botulinum Toxin Light Chain Stability and Endoprotease Activity

KALINA, WARREN V — Ph.D. Date: 2004
Citizenship: United States — University of California-Davis
Adviser: Dr. Alan L. Schmaljohn — Actual Starting Date: 9/10/04
Research Field: Immunology — Termination Date: 9/09/05
Research Title: The Efficacy of using Dendritic Cell Binding Peptides in a Vaccine to Enhance Protective Immune Responses to Marburg Virus

KEENER, WILLIAM K — Ph.D. Date: 1995
Citizenship: United States — Oregon State University
Adviser: Dr. Mark A. Poli — Actual Starting Date: 10/01/04
Research Field: Biochemistry — Termination Date: 9/30/05
Research Title: Development of Assays for N-glycosylases

MINSAVAGE, GARY D — Ph.D. Date: 2004
Citizenship: United States — University of Rochester/NY
Adviser: Dr. James F. Dillman, III — Actual Starting Date: 9/01/04
Research Field: Pharmacology Toxicology — Termination Date: 8/31/05
Research Title: Proteomic Analysis of Low-Level Exposure to the Chemical Warfare Agent Sarin

SHARKEY, CURTIS M — Ph.D. Date: 2003
Citizenship: United States — Purdue University/IN
Adviser: Dr. Sina Bavari — Actual Starting Date: 7/12/04
Research Field: Virology — Termination Date: 7/11/05
Research Title: Design of Antisense Oligonucleotide Drugs to Treat Filoviral Infection

SILVESTRI, LYNN S — Ph.D. Date: 2001
Citizenship: United States — University of Florida
Adviser: Dr. Alan L. Schmaljohn — Actual Starting Date: 9/07/04
Research Field: Virology — Termination Date: 9/06/05
Research Title: Identification of Inhibitors of Filovirus RNA Polymerases

8- Declined

LUKE, CATHERINE J — Ph.D. Date: 1993
Citizenship: England, U.K. — University of Birmingham/England
Adviser: Dr. Connie S. Schmaljohn
Research Field: Viral Immunology
Research Title: Multi-agent DNA Vaccines for High-hazard Pathogens

August 2004

Z- Recommended/No Funding (2 Applicants listed)

GHOSH, KASHINATH — Ph.D. Date: 1992
Citizenship: India — University of Calcutta/India
Adviser: Dr. Russell E. Coleman
Research Field: Infectious Diseases
Research Title: Transmission of Leishmaniasis by Phlebotomine Sand Flies

SONG, GUANHONG — Ph.D. Date: 1994
Citizenship: People's Republic of China — Uniformed Services U Hlth Sci/MD
Adviser: Dr. Russell E. Coleman
Research Field: Parasitology
Research Title: Real-time PCR Assay for the Detection of Leishmania Parasites in Sand Flies

A- Accepted Award (3 Applicants listed)

JOHNSON, ERIK A — Ph.D. Date: 2004
Citizenship: United States — University of Florida
Adviser: Dr. Gary A. Rockwood — Actual Starting Date: 1/03/05
Research Field: Neurosciences — Termination Date: 1/02/06
Research Title: Investigation of the Biochemical Basis of Behavioral Deficits Seen after Exposure to Low Level Chemical Warfare Nerve Agents in Guinea Pigs.

NEPHEW, BENJAMIN C — Ph.D. Date: 2003
Citizenship: United States — Tufts University/MA
Adviser: Dr. Lisa R. Leon — Actual Starting Date: 10/12/04
Research Field: Pathophysiology — Termination Date: 10/11/05
Research Title: Mechanisms of Heat Stress Recovery in Mice

RICKARDS, CAROLINE A — Ph.D. Date: 2004
Citizenship: Australia — Melbourne I Tec
Adviser: Dr. Victor A. Convertino — Expected Starting Date: 3/31/05
Research Field: Physiology — Termination Date: 3/30/06
Research Title: The Effects of Inspiratory Impedance on Cerebral Blood Flow Velocity during Simulated Haemorrhage with Lower Body Negative Pressure

November 2004

1- Recommended (2 Applicants listed)

CASHMAN, KATHLEEN A — Ph.D. Date: 2004
Citizenship: United States — Georgetown University/DC
Adviser: Dr. Mary C. Guttieri
Research Field: Molecular Virology
Research Title: Evaluation of the Protective Role of Cell-Mediated Immunity during Lassa Virus Infection

GOLDEN, JOSEPH W — Ph.D. Date: 2004
Citizenship: United States — U of Minnesota Medical School
Adviser: Dr. Jay W. Hooper
Research Field: Virology
Research Title: Generation of a Highly Potent Poxvirus Immunogen Through the Identification of Neutralizing Epitopes of Vaccinia Virus L1R Protein

Recommended Candidates 1/24/2004 - 1/23/2005 **Attachment 2**

U.S. Army Medical Research and Materiel Command

2/22/2005

A- Accepted Award

BRADFUTE, STEVEN B — Ph.D. Date: 2005

Citizenship: United States — Baylor College of Medicine/TX

Adviser: Dr. Thomas W. Geisbert — Expected Starting Date: 2/21/05

Research Field: Viral Immunology — Termination Date: 2/20/06

Research Title: The Role of Lymphocyte Populations in Successful Immune Responses to Ebola Virus Infection

U.S. Army Medical Research and Materiel Command

U.S. Army Medical Research and Materiel Command

Hillier, Collette Jane 2/12/2001 8/11/2004

1 Patent Title: Design, Expression, Purification and Uses of a Plasmodium falciparum Liver Stage Antigen 1 Fragment That Contains Multiple T- and B-cell Epitopes

Co-authors: David Ervin Lanar, Collette Jane Hillier, Evelina Angov, Jeffrey a. Lyon, Sanjai Kumar, and William Ro
Date Applied For: 11/12/2002 Date Approved For:

Coberley, Sadie Shea **7/29/2002** **8/27/2004**

1 Characterized mouse and human monoclonal antibodies in vitro.

2 Wrote and defended animal protocol before LACUC required for future in vivo testing.

3 Developed and evaluated new methodologies for screening human antibody phage dislay library.

4 Plaque-picked Marburg virus strains for VLP construct starting material and future experiments.

5 Began planning and building of dual expression vectors for changing isotype and species of antibodies.

Gooch, Jan Woodall **7/23/2001** **7/22/2004**

1 Barrier dressings for wounds, liquid and particulate applied.

2 Antimicrobial emulsions for surfaces, broad spectrum and liquid applied.

3 Photopolymerizable tissue adhesives for in vitro/in vivo applications.

4 Investigation of topical antimicrobial agents and their mechanisms of activity.

5 Automatic and one-hand operated combat tourniquets.

Islam, Dilara **9/04/2001** **9/03/2004**

1 During the 1st 6th month, equipment and reagents were purchased for the new Immunology Section. Lab technichans were hired and trained. Different immunological techniques were established. From April 2002 we started to run projects.

2 The study "Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations" was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.

3 The study "Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains" finished recently. The established monkey model will be used for evaluation of Shigella vaccines.

4 Project "Travelers' Diarrhea Among US Forces Deployed to Thailand" was completed for years 2002-2004. Data are being analyzed for year 02 & 03, analyses of 04 samples are going on.

5 Phase I of the study " Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device" is completed recently and phase II is going on.

Keller, Michael Anthony **12/09/2002 3/19/2004**

1 Generation of shuttle plasmids containing Ebola genes NP, VP30, and VP35 under the control of the T7 promoter.

2 Generation of adenoviral plasmids containing Ebola genes NP, VP30, and VP35.

3 Generation of a reporter construct containing the GFP gene under the control of the Ebola virus genomic promoter and the RFP gene under control of an IRES.

Manley, Heather **9/09/2002 8/04/2004**

1 Characterization of model cell systems to examine trafficking of BoNTs. Primary spinal cord cells and NS-26 neuroblastoma cells are good models for the study of BoNT intoxication-each having particular advantages and disadvantages.

2 Examination of mutations of the BoNT light chain and effects on subcellular trafficking. Mutation of putative palmitolyation sites has no effect on membrane localization of BoNT light chain.

3 Characterization of the use of FM1-43 as a replacement for use of radiolabeled neurotransmitter to examine effect of BoNTs on synaptic vesicle release.

Moran, Daniel S. **9/22/2003 8/20/2004**

1 Organizing database and analysis from a previous study.

2 Development of a new concept for construction of a new cold strain index (CSI).

3 Constructing a new stress index for peripheral cold strain (CSIp) and hypothermia.

4 Revising CSIp for different metabolic rates and exercise during cold strain (CSIexe).

Mores, Christopher Nicolas **8/01/2002** **7/31/2004**

1 Characterized S and partial M segments of novel bunyamwera viruses.

2 Discovered numerous stop codons within NSs open reading frame of bunyaviruses from study area.

3 Apparent reassortment of S segment among bunyaviruses of different serogroups within study area.

4 Performed vector competency testing for Karshi virus in soft ticks, arthropod-as-reservoir surmised.

5 Performed biosafety study on inactivation of level 3 and level 4 viruses, reported recommendations.

Myers, Todd Matthew **5/15/2000** **5/14/2004**

1 Percentile schedules were effective in producing relatively and absolutely short or long reaction times in all subjects.

2 Sample-stimulus responding was shown to vary as a function of reinforcer proximity and choice reaction-time criteria.

3 Accuracy was reduced below baseline levels by percentile schedules, whether selecting for shorter or longer reaction times, making them suitable for dissociating speed and accuracy effects.

4 The serial-probe recognition procedure was sensitive to cognitive-behavioral disruptions wrought by various drugs.

5 Percentile schedules were effective at producing/preventing/mitigating biases for particular choice stimuli.

U.S. Army Medical Research and Materiel Command

Olinger, Gene Garrard, Jr **6/04/2001 6/03/2004**

1 Identified multiple Ebola VP protein specific CD8 and CD4 T lymphocyte responses generated by vaccination in mice.

2 Demonstrated lytic function of epitope specific responses and their role in protection against Ebola infection.

3 Demonstrated efficacy of a cocktail vaccine, simulataneous vaccination with VEE replicons expressing six Ebola proteins.

4 Route and dose evaluation of cocktail vaccine in rodents, and demonstrated single low dose efficacy of vaccine strategy.

5 Initiated non-human primates vaccine studies, evaluating celluar and humoral responses and efficacy in challenge model.

Peachman, Kristina Kathryn **6/01/2001 11/30/2004**

1 DNA vaccination through transcutaneous immunization (TCI) is feasible and induces broad immunological responses.

2 GM1 binding peptides serve as a novel adjuvant for transcutaneous immunization.

3 Soluble and particulate antigens traffic to the trans-Golgi in human and murine dendritic cells, whereas, in human and in murine macrophages only particulate antigens traffic to the trans-Golgi.

4 Cholesterol is needed for the presentation of liposome-encapsulated antigen on MHC class I in murine macrophages.

5 Provisional Patent "Penetration of Skin by Smart Cells for Delivery of Drugs and Vaccines." (Submitted in May 2004).

Sallum, Maria Anice **8/04/2003 8/27/2004**

1 One paper has been submitted and is accepted for publication in Medical and Veterinary Entomology, U.K. Regarding the description of six new species of the leucosphyrus group of anopheles (cellia) (diptera: culicidae). This is a morphological study.

2 The complete revisionary study of the leucosphyrus group is done and at this moment is being friendly reviwed by mosquito taxonomists. It is going to be submitted in September 2004. The manuscript is 320 pages, 64 illustrations, 46 tables.

3 Another manuscript regarding o anopheles albitarsis is also done and is going to be submitted for publication in September 2004. The group involved in the study is anopheles albitarsis complex. This is a molecular study.

4 For the leucosphyrus group, sequences of two mitochondrial genes (cox1 and nadh6) have been made and now is being analyzed, 19 species for the coi and 15 species for the nadh6.

Wenke, Joseph Carl **5/29/2003 6/28/2004**

1 Bioresorbable bone graft substitutes that have osteoinductive and osteoconductive characteristics are capable of preventing infection in contaminated bone defects as well as the current standard of care.

2 A model for evaluating different irrigation fluids and devices have been developed.

3 Pulse lavage irrigation reduces more bacteria than pulse lavage.

4 Adding a surfactant to irrigation fluids reduces the bacteria quantity more than the current standard of care (saline).

APPENDIX

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Coberley	**Sadie**	**S**

2) *FORWARDING Address* (for tax statement / final stipend check)	*FORWARDING Phone(s) and E-Mail* (if known)
420 Ellington Avenue #117, Nashville, TN 37205	**phone: (301) 991-0730** **phone: (301) 991-0309** **e-mail: sadie@coberley.com**

3) *Today's Date*	*Dates of Tenure*
August 20, 2004	**from July 30, 2004 to August 27, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**USAMRIID**	**Virology**

5) *NAME OF RESEARCH ADVISER*
Dr. Alan L. Schmaljohn

6) *TITLE OF RESEARCH PROPOSAL*

Evaluation of Filovirus Specific Antibodies as Potential Prophylatic or Therapeutic Agents

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) **Prepared antibodies for passive transfer experiments**
2) **Evaluated human monoclonal antibodies for their ability to protect guinea pigs from lethal filovirus infection**
3) **Evaluated mouse monoclonal antibodies for their ability to protect guinea pigs from lethal filovirus infection**
4) **Constructed the kappa leader sequence as part of the antibody cassette to change antibody isotypes**
5) **Evaluated neutrophils as host cell for Marburg and effect virus has on signal transduction cascades**

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Passive transfer of monoclonal antibodies is one mechanism to provide immediate immunity to an individual exposed to a viral infection. Several human and mouse monoclonal antibodies were evaluated for their ability to provide protection against multiple strains of filovirus in a guinea pig model. Monoclonal were identified that provided partial or complete protection against multiple strains of Marburg. Progress has also been made on the construction of antibody cassettes for the purpose of isotype switching antibodies. Finally, studies were conducted to evaluate the effect of filoviruses on neutrophils.

9) *PUBLICATIONS AND PAPERS RESULTING FROM THE NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) **Publications in peer-reviewed journals**

None.

b) **Books, book chapters, other publications**

None.

c) **Manuscripts in preparation, manuscripts submitted**

Development and Characterization of Human Monoclonal Antibodies to Multiple Strains of Marburg Virus. In preparation

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM THE NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

None.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

None.

Domestic

None.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

None.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

None.

14) *POST-TENURE POSITION TITLE*

To be determined.

15) *POST-TENURE ORGANIZATION* **Provide name and city of organization.**

To be determined.

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- [ ] Remain at Host Agency as Permanent Employee
- [ ] Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center_____
- [ ] Research Position at Another US Government Laboratory
- [ ] Administrative Position at US Government Laboratory
- [ ] Research Position at Foreign Government Laboratory
- [ ] Research/Teaching at US College/University
- [ ] Research/Teaching at Foreign College/University
- [ ] Research/Administration in Industry
- [ ] Research/Admin in Non-Profit Organization
- [ ] Postdoctoral Research
- [ ] Self Employed
- [x] Other: specify TBA

17) *APPRAISAL OF THE ASSOCIATESHIP PROGRAM* **Please rate each of the following**

Your experience as a National Academies Research Associate in this federal Laboratory 1 (poor) to 10 (excellent)

8___ Short-term value: development of knowledge, skills, and research productivity
Comments:

I have received valuable experience working in biosafety level 3 & 4 laboratories at USAMRIID and in redesigning experiments to deal with the restrictions of these environments. I have gained information about generating and evaluating antibodies to filoviruses and am learning how to get around the difficulties of conducting research in this field. Drs. Alan Schmaljohn and Sina Bavari have been great mentors to this process.

8 Long-term value: how your NRC Associateship award affected your career to date
Comments:

I have gained insight in how to conduct research in such a unique environment as USAMRIID.

Administrative Support **1 (poor) to 10 (excellent)**

8 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the National Academies staff **(Leave blank, if not applicable - e.g., NIST)**
Comments on both/either:

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT*

None.

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Gooch	**Jan**	**W**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **Dr. Jan W. Gooch** Street **2020 Howell Mill Road, Suite C227** City, State Zip **Atlanta, GA 30318**	Phone: **404.403.0047** Phone: E-mail: **jangooch@yahoo.com**

3) *Today's Date*	*Dates of Tenure*
July 6, 2004	from **July 22, 2001** to **July 22, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**ISR**	**US Army Institute of Surrgical Research**

5) *Name of Research Associateship Programs Adviser*

COL John Holcomb/Dr. Albert T. McManus

6) *TITLE OF RESEARCH PROPOSAL*

Biocompatible hydrophlic films from acrylic emulsions: Protection of burns and wounds

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) **Barrier dressings for wounds, liquid and particulate applied**

2) **Antimicrobial emulsions for surfaces, broad spectrum and liquid applied**

3) **Photopolymerizable tissue adhesives for in vitro/in vivo applications**

4) **Investigation of topical antimicrobial agents and their mechanisms of activity**

5) **Automatic and one-hand operated combat tourniquets**

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

I am in the process of continuing the development of the automatic and one-hand operated combat tourniquet

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

I have applied for publication (pending permission from ISR) to publish the research results at Kluwer Academic/Plenum Publishing in New York under the title "Advanced Biocompatible Polymeric Materials Applied to Combat Casualty Care," and also represented in US Army Technical Reports

10) *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

- **"New Barrier Dressings" and "Automatic Combat Tourniquets" present at Advanced Technology Application for Combat Casualty Care, St. Petersburg, FL, August 2001, 2002 and 2003**

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

Professor/Project Director

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

Georgia Institute of Technology, School of Chemical and Biomolecular Engineering

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☒ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

___ Short-term value: development of knowledge, skills, and research productivity

Comments:

I received excellent practical education and training in biomedical technology at ISR that will provide me with experience to continue research in polymericmaterials and devices for healing wounds

___ Long-term value: how the National Academies Associateship award affected your career to date

Comments:

I intend to continue research in cooperation with NIH, NSF and NIST for combat casualty care using the valuable experience I gained at ISR.

Administrative Support

___ Quality of the support you received from the federal Laboratory

___ Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives **(Leave blank, if not applicable – e.g., NIST)**

Comments on both/either:

Response: Excellent on both

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

I recommend a visit to NRC in Washington, DC for a seminar and briefing following this program or a visit from NRC representatives to ISR

THE NATIONAL ACADEMIES
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Research Associateship Programs

FINAL REPORT

Print Layout View

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1) *Associate Last or Family Name*	*First Name*	*M.I.*
Islam	**Dilara**	

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **AFRIMS** Street **315/6 Rajvithi Road** City, State Zip **Bangkok, Thailand; 10400**	Phone: **662 644 6125** Phone: E-mail: **IslamD@afrims.org**

3) *Today's Date*	*Dates of Tenure*
August 6, 2004	from **September 1, 2001** to **August 31, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**AFRIMS**	**Department of Enteric Diseases**

5) *Name of Research Associateship Programs Adviser*

Bodhidatta, Ladaporn

6) *TITLE OF RESEARCH PROPOSAL*

Establishment of the immunological assays for Shigella-vaccine trial and explore the role of specific and innate mechanisms of immune responses in vaccinees

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) During the 1st 6th month, equipment and reagents were purchased for the new Immunology Section. Lab technichans were hired and trained. Different immunological techniques were established. From April'2002 we started to run projects.

2) The study "Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations" was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.

3) The study "Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains" finished recently. The established monkey model will be used for evaluation of Shigella vaccines.

4) Project "Travelers' Diarrhea Among US Forces Deployed to Thailand" was completed for years 2002-2004. Data are being analyzed for year 02 & 03, analyses of 04 samples are going on.

5) Phase I of the study " Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device" is completed recently and phase II is going on.

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Phase II of the study " Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device". Analysis of samples from the study Cobra-Gold-04. Analysis of samples from WRSD1 clinical trial at JHU.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

X

b) Books, book chapters, other publications

X

c) Manuscripts in preparation, manuscripts submitted

2 in preparation and 1 submitted.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

X

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Dilara Islam*, PhD; Michael D. Lewis*, LTC, MC; Ladaporn Bodhidatta*, MD; Daniel Scott, CAPT; Shahida Baqar** PhD; Carl J. Mason*, COL, MC.**
*** Department of Enteric Diseases, Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand.**
**** Naval Medical Research Center (NMRC), Silver Spring, MD, USA.**
POSTER TITLE: Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations.
The 3rd International Conference on Vaccines for Enteric Diseases, Jamaica, 28-30 April 2004. It will be published in Journal "Vaccine".

Domestic

X

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

Lectures delivered at HHMI training course on Infectious Disease Research at ICDDR,B, Dhaka,September 8 – 23, 2003.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

X

14) *POST-TENURE POSITION TITLE*

Scientist

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

AFRIMS, 315/6 Rajvithi Rd, Bangkok-10400, Thailand

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- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity
Comments:
I developed the knowledge how to built a Research Laboratory. Working at AFRIMS gave me opportunity to wirk with animal model for different enteric vaccine development.

10 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
Able to establish Immunology Section, at Department of Enteric Dseases, AFRIMS and able to conduct few research studies.

Administrative Support

10 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff **(Leave blank, if not applicable – e.g., NIST)**
Comments:
Support from the Department and from NRC was adequate. and I appreciate.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

NRC support should continue

US Postal Service mailing address	fax	Express Delivery address
Research Associateship Programs	202 – 334 – 2759	Research Associateship Programs
The National Academies		The National Academies
500 Fifth Street, NW [GR 322A]	website	2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20001	www.national-academies.org/rap	Washington, DC 20007

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

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Islam	**Dilara**	

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **AFRIMS** Street **315/6 Rajvithi Road** City, State Zip **Bangkok, Thailand; 10400**	**Phone: 662 644 6125** **Phone:** **E-mail: IslamD@afrims.org**
3) *Today's Date* **August 6, 2004**	*Dates of Tenure* from **September 1, 2001** to **August 31, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**AFRIMS**	**Department of Enteric Diseases**

5) *Name of Research Associateship Programs Adviser*

Bodhidatta, Ladaporn

6) *TITLE OF RESEARCH PROPOSAL*

Establishment of the immunological assays for Shigella-vaccine trial and explore the role of specific and innate mechanisms of immune responses in vaccinees

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) During the 1st 6th month, equipment and reagents were purchased for the new Immunology Section. Lab technichans were hired and trained. Different immunological techniques were established. From April'2002 we started to run projects.

2) The study "Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations" was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.

3) The study "Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains" finished recently. The established monkey model will be used for evaluation of Shigella vaccines.

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8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

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9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

X

b) Books, book chapters, other publications

X

c) Manuscripts in preparation, manuscripts submitted

2 in preparation and 1 submitted.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

X

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Dilara Islam*, PhD; Michael D. Lewis*, LTC, MC; Ladaporn Bodhidatta*, MD; Daniel Scott, CAPT; Shahida Baqar** PhD; Carl J. Mason*, COL, MC.**
*** Department of Enteric Diseases, Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand.**
**** Naval Medical Research Center (NMRC), Silver Spring, MD, USA.**
POSTER TITLE: Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations.
The 3rd International Conference on Vaccines for Enteric Diseases, Jamaica, 28-30 April 2004. It will be published in Journal "Vaccine".

Domestic

X

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

Lectures delivered at HHMI training course on Infectious Disease Research at ICDDR,B, Dhaka,September 8 – 23, 2003.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

X

14) *POST-TENURE POSITION TITLE*

Scientist

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

AFRIMS, 315/6 Rajvithi Rd, Bangkok-10400, Thailand

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
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  Abbreviate Host Laboratory/Center **AFRIMS**
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- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
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- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

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10 Short-term value: development of knowledge, skills, and research productivity
Comments:
I developed the knowledge how to built a Research Laboratory. Working at AFRIMS gave me opportunity to wirk with animal model for different enteric vaccine development.

10 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
Able to establish Immunology Section, at Department of Enteric Dseases, AFRIMS and able to conduct few research studies.

Administrative Support

10 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff **(Leave blank, if not applicable – e.g., NIST)**
Comments:
Support from the Department and from NRC was adequate. and I appreciate.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

NRC support should continue

US Postal Service mailing address	fax	Express Delivery address
Research Associateship Programs	202 – 334 – 2759	Research Associateship Programs
The National Academies		The National Academies
500 Fifth Street, NW [GR 322A]	website	2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20001	www.national-academies.org/rap	Washington, DC 20007

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

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1) *Associate Last or Family Name*	*First Name*	*M.I.*
Keller	**Michael**	**A**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **1817 Vernon Street, NW** Street City, State Zip **Washington D.C., 20009**	Phone: **240-498-7730** Phone: E-mail: **mikeller75@yahoo.com**

3) *Today's Date*	*Dates of Tenure*
February 27, 2004	from **December 10, 2002** to **March 20, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**RIID**	**Virology**

5) *Name of Research Associateship Programs Adviser*

Alan Schmaljohn

6) *TITLE OF RESEARCH PROPOSAL*

Therapeutic Targeting of the Ebola virus RNA-Dependent RNA Polymerase

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) **Generation of shuttle plasmids containing Ebola genes NP, VP30, and VP35 under the control of the T7 promoter.**
2) **Generation of adenoviral plasmids containing Ebola genes NP, VP30, and VP35.**
3) **Generation of a reporter construct containing the GFP gene under the control of the Ebola virus genomic promoter and the RFP gene under control of an IRES.**
4)
5)

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Currently, the adenoviral plasmids containing the Ebola genes are being used to generate recombinant adenoviruses needed for the high throughput assay. Also, the reporter construct containing the GFP and RFP genes is being tested in transfection/infection experiments. Efforts are continuing to clone the L gene of Ebola virus into the shuttle plasmid. Progress has been hampered due to the size of the L gene, which is over 6600 nucleotides.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) **Publications in peer-reviewed journals**

0

b) **Books, book chapters, other publications**

0

c) **Manuscripts in preparation, manuscripts submitted**

0

10) *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

0

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

0

Domestic

0

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

0

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

0

14) *POST-TENURE POSITION TITLE*

In progress

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

0

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☐ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☒ Other: **specify** **Consulting**

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

2 Short-term value: development of knowledge, skills, and research productivity

Comments:

All knowledge and skills used were acquired during my time in graduate school at Wake Forest University. The project I was working on at USAMRIID was very similar to work I did in graduate school. Addtionally, the virus I worked on in graduate school is a -RNA virus, like Ebola, and therefore most knowledge was developed and acquired at Wake Forest. Research productivity was at times inhibited by problems encountered with cloning the Ebola gen products into the the proper vector.

8 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

The Associateship has given me an opportunity to see how research is conducted in a government/military environment.

Administrative Support

5 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives **(Leave blank, if not applicable – e.g., NIST)**

Comments on both/either:

Everyone at the Research Associateship Programs office were very helpful during the entire process.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

THE NATIONAL ACADEMIES
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Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Manley	**Heather**	**A**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **Booz, Allen & Hamilton, Inc.** Street **4001 Fairfax Drive** City, State Zip **Arlington VA, 22202**	**Phone: A443-866-6220 (cell)** **Phone: 913-631-2192 (Mom)** **E-mail: heather.manley@gmail.com**
3) *Today's Date* **August 4, 2004**	*Dates of Tenure* from **September 5, 2002** to **August 4, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**USAMRICD**	**Pharmacology Div. / Neurotoxicology Br.**

5) *Name of Research Associateship Programs Adviser*

Michael Adler, Ph.D.

6) *TITLE OF RESEARCH PROPOSAL*

Intracellular trafficking of Botulinum Neurotoxin (BoNT).

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) Characterization of model cell systems to examine trafficking of BoNTs. Primary spinal cord cells and NS-26 neuroblastoma cells are good models for the study of BoNT intoxication- each having particular advantages and disadvantages.

2) Examination of mutations of the BoNT light chain and effects on subcellular trafficking. Mutation of putative palmitolyation sites had no effect on membrane localization of BoNT light chain.

3) Characterization of the use of FM1-43 as a replacement for use of radiolabeled neurotransmitter to examine effect of BoNTs on synaptic vesicle release.

4)

5)

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Current research is characterizing the use of FM1-43 as a marker of synaptic activity. Previous studies used radiolabeled neurotransmitter precursors; the current approach attempts to replace the use of radioactivity with a fluorescent-based assay. Dye uptake and release were studied in two model cell systems for botulinum neurotoxin (BoNT): primary dissociated spinal cord cultures and a continuous cholinergic neuroblastoma cell line (NS-26). Other studies use these cell systems to examine the role of signal sequences in BoNT light chain (putative dileucine, palmitoylation and tyr-phosphorylation motifs) in trafficking and anchoring to the plasma membrane of synaptic active release zones.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Adler M, Manley HA, Deshpande SS, Purcell A, Kan K, Hamilton T, Lockridge O, Duysen EG and Sheridan RE (2004) Morphological remodeling, reduced acetylcholine receptor density and reliance on butyrylcholinesterase activity can sustain muscle function in acetylcholinesterase knockout mice. In press for Muscle and Nerve.

Adler M, Shafer HF, Manley HA, Hackley BE, Nicholson JD, Keller JE, (2003) A Capillary Electrophoresis Technique for Evaluating Botulinum Neurotoxin B Light Chain Activity. Journal of Protein Chemistry 22(5):441-448.

b) Books, book chapters, other publications

Adler M, Sheridan RE, Manley HA, Apland J, Deshpande SS and Romano J (2003) Development of Treatments for Intoxication by Botulinum Neurotoxin. In: Pharmacological Perspectives of Toxic Chemicals and Their Antidotes, Flora SJS, Romano JA, Baskin SI, Sekhar K Eds., Narosa Publishing House, New Delhi India.

c) Manuscripts in preparation, manuscripts submitted

Manley HA, Clark M and Adler M (2004) Characterization of the neuronal cell line NS-26 as a model system to study intoxication by Clostridium botulinum. In press for Proceedings of the 2004 Bioscience Meeting.

10) *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

Manley HA, Clark M and Adler M (2004) Characterization of the neuronal cell line NS-26 as a model system to study intoxication by Clostridium botulinum. Presented at the Bioscience 2004 meeting in Hunt Valley MD and at the 2003 Society for Neuroscience meeting in New Orleans, LA.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

Senior Consultant (Level II)

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

Booz, Allen and Hamilton, 4001 Fairfax Drive, Arlington VA, 22202

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
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- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☐ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☒ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

8 Short-term value: development of knowledge, skills, and research productivity
Comments:
I brought many skills to my new lab since I am a cell/molecular biologist and chose a physiology laboratory. I found that our areas of expertise complemented each other very well. I had hoped to be more productive, and get more first author publications, however. I think what prevented this was the relatively small size of the lab and the many projects to be accomplished, and my rather short tenure (~2 years).

10 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
The experience that I received working for the DoD is the reason that I was able to attain a career with a consulting firm. I will be working with DoD contracts with DARPA and the Department of Homeland Security. The NRC experience has been an invaluable tool for helping me attain my career goals.

Administrative Support

9 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives **(Leave blank, if not applicable – e.g., NIST)**
Comments on both/either:
I had an excellent experience in my home laboratory and with the NRC.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

My only suggestion would be more aggressive recruiting. Being an NRC fellow is a wonderful opportunity for post-doctoral scientists who want to embark upon a career working for or with the federal government. Many graduate students do not know of this opportunity. At many national scientific meetings there are "life after graduate school" type lecture series to give current students ideas of potential career paths. If the NRC sent representatives to some of the larger meetings (a daunting task, I know), it would help promote the program.

US Postal Service mailing address	fax	Express Delivery address
Research Associateship Programs	202 – 334 – 2759	Research Associateship Programs
The National Academies		The National Academies
500 Fifth Street, NW [GR 322A]	website	2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20001	www.national-academies.org/rap	Washington, DC 20007

THE NATIONAL ACADEMIES
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Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Moran	Daniel	S

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. Heller Institute of Medical Research Street Sheba Medical Center, Tel Hashomer City, State Zip 52621 ISRAEL	Phone: Phone: 972-3-5303564 E-mail: dmoran55@comcast.net

3) *Today's Date*	*Dates of Tenure*
August 16, 2004	from September 21, 2003 to August 20, 2004

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	USARIEM	Biophysics & Biomodeling

5) *Name of Research Associateship Programs Adviser*

Dr. Larry Berglund

6) *TITLE OF RESEARCH PROPOSAL*

Enhanced modeling capability of the cold strain index (CSI) for different metabolic rates

7) *SUMMARY OF RESEARCH DURING TENURE* Itemize significant findings in concise form, utilizing key concepts/words.

1) Organizing database and analysis from a previous study
2) Development a new concept for construction of a new cold strain index (CSI)
3) Constructing a new stress index for peripheral cold strain (CSIp) and hypothermia
4) Revising CSIp for different metabolic rates and exercise during cold strain (CSIexc).
5)

8) *RESEARCH IN PROGRESS* Describe in no more than 100 words.

A new cold strain index for hypothermia as well as for cold peripheral strain (CSIp) was dveloped and evaluated for different exposures. The CSIp was revised to include cold strain assessment for different mtabolic rates and exercise(CSIexc) intensities. However, this index needs to be further validated for different metabolic rates and cold strain exposures.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Moran D.S., Endrusick T.L., Santee W.R., Berglund L.G., and Kolka M.A.:
Evaluation of the cold strain index (CSI) for peripheral cold environmental stress. J. Thermal Biol., 2004.

b) Books, book chapters, other publications

1. Moran D.S.:
Hypohydration measurements by radio frequency. NATO Res. Technol. Agency. Maintaining Hydration Panel: Issues, Guidelines and Delivery. Boston, December 2004.

2. Moran D.S., Pandolf K.B., Heled Y., Shapiro Y., and Gonzalez R.R.:
The role of wind velocity in the environmental stress index. Am. College Sports Med., Indianapolis, IN, May 2004.

3. Moran D.S. and Berglund L.:
Human Approval for military women trainees. The 3rd Int. Conf. on Medical Ethics. Eilat, Israel, March 2004.

4. Moran D.S., Gonzalez R.R., and Berglund L.G.:
Technical testing of the wrist size automatic physiological and environmental monitor (WAPEM): laboratory and outdoors evaluations of environmental sensors performance. Tech. Report T-04/xx, US Army Res. Inst. Environ. Med., Natick, MA, USA, April 2004.

c) Manuscripts in preparation, manuscripts submitted

Moran D.S., Endrusick T.L., Santee W.R., Berglund L.G., and Kolka M.A.:
Enhanced modeling capability of the cold strain index (CSI) for different metabolic rates, 2004.

Moran D.S., Endrusick T.L., Santee W.R., Berglund L.G., and Kolka M.A.:
Evaluation of the cold strain index (CSI) for peripheral cold strais and different metabolic rates. Tech. Report T-04/xx, US Army Res. Inst. Environ. Med., Natick, MA, USA, 2004.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Moran DS and Berglund L: Human Use Approval for military women trainees. The 3rd Int. Conf. Med. Ethics, Eilat Israel, March 2004.

Moran DS, Heled Y, Yanovitch R, Margaliot M, and Shapiro Y: Hupohydration by radio frequency. In "Maintaining Hydration: Issues, Guidelines and Delivery". Research and Technology Organization NATO publication HFM-086, 2003 "Maintaining Hydration: Issues, Guidelines, and Delivery", Research & Technology Organization, NATO, Boston, Dec 2003.

Domestic

Moran DS, Pandolf KB, Heled Y., Shapiro Y., Gonzalez RR: The role of wind velocity in the environmental stress index. Med. Sci. Sports Exerc. 36: 5 S316, May, 2004. ACSM 51st annual meeting, Indianapolis, IN June 2004.

ACSM Scientific Meeting on "Hydration and Physical Activity", Boston, December 2003.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* Include dates, names and locations of seminars.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

Commander, Inst. Mil. Physiol. IDF, Med. Corps

15) *POST-TENURE ORGANIZATION* Provide name and address of organization.

Heller Institute of Medical Research, Sheba Medical Center, Tel Hashomer 52621 ISRAEL

16) *POST-TENURE POSITION STATUS / CATEGORY* Please indicate only one.

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center ____
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- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: specify ____

17) *APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM* Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

8 Short-term value: development of knowledge, skills, and research productivity
Comments:

8 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

Administrative Support

8 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff (Leave blank, if not applicable – e.g., NIST)
Comments:

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

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Research Associateship Programs

FINAL REPORT

Enter information electronically in Layout view.

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1) *Associate Last or Family Name*	*First Name*	*M.I.*
Myers	**Todd**	**M**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
83 George Thomas Drive Frederick, MD 21702	**Phone: 301 319 9086 Phone: 301 668 7660 E-mail: todd.myers@amedd.army.mil**
3) *Today's Date* **April 29, 2003**	*Dates of Tenure* **from May 15, 2000 to May 14, 2003**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**WRAIR**	**NEUROSCIENCE/NEUROBEHAVIORAL ASSESSMENT**

5) *Name of Research Associateship Programs Adviser*

Richard A. Bauman, Ph.D.

6) *TITLE OF RESEARCH PROPOSAL*

Percentile Schedules of Reaction-Time Reinforcement in the Serial-Probe Recognition Procedure: Toward a More Sensitive Assay of Cognitive and Behavioral Functioning

7) *SUMMARY OF RESEARCH DURING TENURE* Itemize significant findings in concise form, utilizing key concepts/words.

1) **Percentile schedules were effective in producing relatively and absolutely short or long reaction times in all subjects.**

2) **Sample-stimulus responding was shown to vary as a function of reinforcer proximity and choice reaction-time criteria.**

3) **Accuracy was reduced below baseline levels by percentile schedules, whether selecting for shorter or longer reaction times, making them suitable for dissociating speed and accuracy effects.**

4) **The serial-probe recognition procedure was sensitive to cognitive-behavioral disruptions wrought by various drugs.**

5) **Percentile schedules were effective at producing/preventing/mitigating biases for particular choice stimuli.**

8) *RESEARCH IN PROGRESS* Describe in no more than 100 words.

Current work is focusing on validating and extending the serial-probe recognition procedure to African green monkeys and to other pharmacological/biochemical agents of military relevance. Furthermore, a newer potentially more sensitive assay invented by Dr. Myers, the Visual-Motor Speed Judgment Task, is soon to undergo validation using pharmacological agents and, possibly, extend percentile schedule technology.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Myers TM, Galbicka G, Sipos ML, Varadi S, Oubre JL, Clark MG. Effects of anticholinergics on serial-probe recognition accuracy of rhesus macaques (Macaca mulatta). Pharmacol Biochem Behav 2002 Nov;73(4):829-34.

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Myers, TM, Clark, MG. Serial-probe recognition in rhesus macaques: Effects of midazolam. Submitted to Behavioural Pharmacology. Currently under review.

Myers, TM, Clark, MG. Percentile schedules of choice reaction-time reinforcement in a serial-probe recognition task: Effects on accuracy and sample-stimulus responding. In preparation for submission.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

Visual-Motor Speed Judgment Task, Todd M. Myers, Invention Disclosed to WRAIR and NRC on January 8, 2003; Still under review by WRAIR ORTA.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Clark, M.G., Saxena, A., Anderson, S.M., Sun, W., Bansal, R., Myers, T.M., & Doctor, B.P. Behavioral toxicity of purified human serum butyrylcholinesterase in mice. Paper presented at The Fourth International Chemical and Biological Medical Treatment Symposium, Spiez, Switzerland, May 2002.

Domestic

Myers, T.M., & Clark M.G. Evaluating the Behavioral Toxicity of Midazolam in Rhesus Monkeys. Poster presented at the Maryland Technology Development Corporation's USAMRMC Technology Showcase, Aberdeen Proving Ground, MD, March 2003.
Myers, T.M., & Clark M.G. Midazolam disrupts the sample-stimulus and choice responding of rhesus monkeys in a conditional discrimination procedure. Poster presented at the Annual Convention of the Southeastern Association for Behavior Analysis, Charleston, SC, November 2002.
Clark, M.G., Vasilevsky, S., Oubre, J.L., & Myers, T.M. A Comparison of Air and Shock
Shuttle-box Avoidance in Male C57BL/6J and 129X1/SvJ Mice. Poster presented at the Society for Neuroscience Convention, November 2002.
Myers, T.M. Percentile schedules of reaction-time reinforcement: List learning in monkeys. Poster presented at the Annual Convention of the Association for Behavior Analysis, New Orleans, May 2001.
Myers, T.M., Galuska, C.M., & Perone, M. Assessing time horizons via a progressive-ratio schedule. Poster presented at the Annual Convention of the Association for Behavior Analysis, New Orleans, May 2001.
Myers, T.M. & Perone, M. Temporally extended response-reinforcer relations: Chained schedules of delayed reinforcement. Paper presented at the Annual Convention of the Association for Behavior Analysis, Washington, DC, May 2000.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* Include dates, names and locations of seminars.

Myers, T. M. Differential reinforcement of short and long reaction times in the serial-probe recognition prcedure. Paper presented at the Walter Reed Army Institute of Research, Silver Spring, MD, April 2001.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

Edward L. Buescher Outstanding Young Scientist Award (2002)

14) *POST-TENURE POSITION TITLE*

Behavior Analyst

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

Battelle, Columbus Division, 505 King Avenue, Columbus, OH 43201

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

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- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: specify _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

8 Short-term value: development of knowledge, skills, and research productivity
Comments:
I have offered much to the host laboratory and have learned a great deal from my colleagues while receiving competitive post-doc salary. I only wished to have been more productive in publishing my work, which was difficult to do given certain institutional hindrances (e.g., protocol approval, subject procurement).

8 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
The award changed my career path from academe to government and provided me with an important background in behavioral pharmacology.

Administrative Support

8 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff **(Leave blank, if not applicable – e.g., NIST)**
Comments:
Thank you.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

Try to provide more rapid and complete travel reimbursement.

US Postal Service mailing address	fax	Express Delivery address
Research Associateship Programs	202 – 334 – 2759	Research Associateship Programs
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Research Associateship Programs

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1) *Associate Last or Family Name*	*First Name*	*M.I.*
Mores	**Christopher**	**N**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. FMEL, University of Florida **Street 200 9th Street SE** **City, State Zip Vero Beach, FL 32962**	**Phone: ~~617-694-1928~~ 772-538-7858** **Phone: ~~856-778-4456~~ 772-778-7200 x163** **E-mail: ~~cnmksk@yahoo.com~~ cmores@ufl.edu**

3) *Today's Date*	*Dates of Tenure*
August 10, 2004	**from August 1, 2002 to July 31, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**USAMRIID**	**Virology**

5) *Name of Research Associateship Programs Adviser*

Michael Turell

6) *TITLE OF RESEARCH PROPOSAL*

Genotypic and Phenotypic Analysis of Bunyavirus Reassortants in Iquitos, Peru

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) Characterized S and partial M segments of novel bunyamwera viruses

2) Discovered numerous stop codons within NSs open reading frame of bunyaviruses from study area

3) Apparent reassortment of S segment among bunyaviruses of different serogroups within study area

4) Performed vector competency testing for Karshi virus in soft ticks, arthropod-as-reservoir surmised

5) Performed biosafety study on inactivation of level 3 and level 4 viruses, reported recommendations

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

VEE subtyping analysis of isolates from Peru. Genomic analysis of selected bunyaviruses from Peru underway. Ecological studies of Karshi and CCHF viruses underway in Uzbekistan.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Turell MJ, Mores CN, Lee JS, Paragas JJ, Endy T, Khodjaev S. Vector competence of Ornithodoros ticks for Karshi and Langat viruses. Journal of Medical Entomology (in press).

Blow JA, Dohm DJ, Negley DL, Mores CN. Virus inactivation by nucleic acid extraction reagents. Journal of Virological Methods. 2004 Aug;119(2):195-8.

Turell MJ, O'Guinn ML, Wasieloski LP Jr, Dohm DJ, Lee WJ, Cho HW, Kim HC, Burkett DA, Mores CN, Coleman RE, Klein TA. Isolation of Japanese encephalitis and Getah viruses from mosquitoes (Diptera: Culicidae) collected near Camp Greaves, Gyonggi Province, Republic of Korea, 2000. Journal of Medical Entomology. 2003 Jul;40(4):580-4.

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Phylogenetic analysis of bunyamwera isolates from Peru (J. Gen. Virol.)

Vector competency of Hoduran mosquitoes for WNV (J. Med. Ent.)

Vector competency of Korean mosquitoes for Getah, JE and WN viruses (J. Med. Ent.),

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

Mores CN and Turell MJ. Phylogenetic analysis of bunyaviruses isolated from mosquitoes captured in Peru. Annual Meeting of The American Society of Tropical Medicine and Hygiene. 2003. Philadelphia PA.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

April 2003. Old Dominion University. "Arboviruses".

February 2004. University of Florida. "Ecology and evolution of arboviruses"

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

Assistant professor

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

Florida Medical Entomology Laboratory, University of Florida, 200 9th Steet SE, Vero Beach, FL 32962

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☒ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

7 Short-term value: development of knowledge, skills, and research productivity
Comments:
Research productivity hampered by fluid regulations regarding immunizations, suite access, security clearance.

8 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
This award has, and will undoubtedly continue to, figured prominently in my blossoming career.

Administrative Support

5 Quality of the support you received from the federal Laboratory

9 Quality of the support you received from the Research Associateship Programs staff **(Leave blank, if not applicable – e.g., NIST)**
Comments:
As an NRC fellow, I often had difficulties navigating the bureaucratic nightmare at USAMRIID. This seemed to be because I did not fit many of their assumptions/rules regarding "contractors". Ultimately, this lead to my leaving USAMRIID before I was prepared, or desired, to.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

Better coordination is needed between the NRC and USAMRIID regarding advanced application for security clearances, select agent registration, and immunization scheduling in order to prevent many months (upto 6) of lost productivity.

Thank you for awarding my fellowship. It was an amazing experience that would have otherwise been impossible. I will cherish the experience always.

US Postal Service mailing address	fax	Express Delivery address
Research Associateship Programs	202 – 334 – 2759	Research Associateship Programs
The National Academies		The National Academies
500 Fifth Street, NW [GR 322A]	website	2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20001	www.national-academies.org/rap	Washington, DC 20007

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Olinger	**Gene**	**G**

2) *FORWARDING Address* (for tax statement / final stipend check)	*FORWARDING Phone(s) and E-Mail* (if known)
2023 Sumner Drive **Frederick, MD 21702**	**phone: (301) 631-9035** **phone: (301) 619-8581** **e-mail: garrard113@aol.com**
3) *Today's Date* **June 13, 2004**	*Dates of Tenure* **from June 1, 2001 to June 3, 2004**

4) *Agency* *Laboratory* *or* *NASA Center*	*Division / Branch / Directorate*
AMRMC USAMRIID	**Virology/Dept of Host and Cell Resp**

5) *NAME OF RESEARCH ADVISER*
Mary Kate Hart, Ph.D.

6) *TITLE OF RESEARCH PROPOSAL*

Identification of Ebola Proteins that Elicit Cell-Mediated Immunity for Use in a Cocktail Vaccine Strategy.

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) **Identified multiple Ebola VP protein specific CD8 and CD4 T lymphocyte responses generated by vaccination in mice.**
2) **Demonstrated lytic function of epitope specific responses and their role in protection against Ebola infection.**
3) **Demonstrated efficacy of a cocktail vaccine, simulataneous vaccination with VEE replicons expressing six Ebola proteins.**
4) **Route and dose evaluation of cocktail vaccine in rodents, and demonstrated single low dose efficacy of vaccine strategy.**
5) **Initiated non-human primates vaccine studies, evaluating celluar and humoral responses and efficacy in challenge model.**

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Early experiments focused on determining the cellular responses generated in mice (two strains) to the VEE replicon Ebola VP vaccine(s) and the role of the cellular responses in protection. With efficacy demonstrated in the rodent model, non-human primates have been vaccinated with the cocktail vaccine by two routes to evaluate the ability of the vaccine platform to induce protective immunity. The use of double promoter VEE replicons expressing two different antigens, which will reduce the total number of replicons used in vaccination, are being developed and will be tested in mice. Lastly we are planning to evaluate cross protection against virus strains that differ from the vaccine.

9) *PUBLICATIONS AND PAPERS RESULTING FROM THE NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

None

b) Books, book chapters, other publications

None

c) Manuscripts in preparation, manuscripts submitted

Identification of Ebola Virus Epitopes Recognized by CD8+ Cytotoxic T cells. G. G. Olinger, R. J. Hogan, M. A. Bailey, R. Bakken, A. Kuehne, and M.K. Hart. Manuscript in Preparation, 2004.

Identification of Multiple Protective Epitopes Within the Ebola Virus Nucleoprotein. R. J. Hogan, M. A. Bailey, G. G. Olinger, R. Bakken, A. Kuehne, and M.K. Hart. Manuscript in Preparation, 2004.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM THE NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

Ebola Peptides and Immunogenic Compostions Containing the Same. Hart M.K.; Wilson, J.A., Olinger, G.G.; Bailey, M.A. December 4, 2003, Patent Application # 20030224015.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Vaccination with Six Ebola Virus Proteins Expressed from Replicons Protects Mice From Lethal Ebola Challenge. G.G. Olinger, M.A. Bailey, R. Bakken, A. Kuehne Viral, and M.K. Hart. Vaccines 2003, International Human and Animal Viral Vaccination Conference, Scotland, July 14-16 2003.

Domestic

Identification of Ebola Virus Epitopes recognized by CD8+ Cytotoxic T cells. G. G. Olinger, R. J. Hogan, M. A. Bailey, R. Bakken, A. Kuehne, and M.K. Hart. American Association of Immunologists, Denver, CO, May 6-13, 2003

Comparison of three assays used for T Cell Epitope mapping in Ebola virus: IFN-gamma enzyme-linked immunospot (ELISpot), IFN-gamma intracellular cytokine staining, and 51Cr-release. M. A. Bailey, G. G. Olinger, R. Bakken, and M. K. Hart. 6th annual conference on vaccine research, in Arlington, on May 5-7th, 2003.

Role of humoral and celluar responses in protection against Ebola virus infection.
M.K. Hart, J.W. Wilson, R. Bakken, A. Kuehne, M. A. Bailey, J. Hogan, and G. G. Olinger. American Society for Microbiology, Future Directions for Biodefense Research: Development of Countermeasures. Baltimore Marriott Waterfront Hotel in Baltimore, Maryland, March 9-12, 2003.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

Protective humoral and cellular immune responses to Ebola virus. Rush St. Luke's Medical Center, Rush University; Immunology & Microbiology Departmental Seminar/Graduate School Biodefense Course- Chicago, IL. May 4, 2003.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

None

14) *POST-TENURE POSITION TITLE*

Microbiologist

15) *POST-TENURE ORGANIZATION* **Provide name and city of organization.**

U.S. Army, USAMRIID, Fort Detrick, Maryland

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- [x] Remain at Host Agency as Permanent Employee
- [ ] Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center_____
- [ ] Research Position at Another US Government Laboratory
- [ ] Administrative Position at US Government Laboratory
- [ ] Research Position at Foreign Government Laboratory
- [ ] Research/Teaching at US College/University
- [ ] Research/Teaching at Foreign College/University
- [ ] Research/Administration in Industry
- [ ] Research/Admin in Non-Profit Organization
- [ ] Postdoctoral Research
- [ ] Self Employed
- [ ] Other: specify

17) *APPRAISAL OF THE ASSOCIATESHIP PROGRAM* **Please rate each of the following**

Your experience as a National Academies Research Associate in this federal Laboratory 1 (poor) to 10 (excellent)

7___ Short-term value: development of knowledge, skills, and research productivity
Comments:

Overall a positive experience. Early delays in research progress (up to four months) could have been avoided with better planning by both the NRC and host laboratory. For example, paperwork for security and medical clearances could have been done in advance.

7__ Long-term value: how your NRC Associateship award affected your career to date
Comments:

The training provided during tenure was necessary for qualifying for the Microbiologist position that I have accepted. Professional development could have been better emphasized by the host laboratory and the NRC. For example; more seminars, professional interactions with other NRC Associates and host laboratory mentors, and more interactions outside of the host laboratory (i.e. NCI, NIH, etc).

Administrative Support **1 (poor) to 10 (excellent)**

7__ Quality of the support you received from the federal Laboratory

8__ Quality of the support you received from the National Academies staff **(Leave blank, if not applicable - e.g., NIST)**
Comments on both/either:

Because of the complexity of the host laboratories procedures, a great deal of time was used inefficiently. It takes at least three years to understand internal processes. In addition, the associate must learn NRC procedures and policies. The staff of at both USAMRIID and National Academies have always been helpful and supportive during my tenure.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT*

A "packet of information" from the host laboratory with various steps, forms, policies, etc. would help associates during early phases of research.
While associates should have training required to perform research before arriving, often there are new technologies/ techniques that would benefit the associate and the host laboratory. When travel funds are available, the use of these funds for training should be considered.

US Postal Service mailing address	fax 202 – 334 – 2759	Express Delivery address
Research Associateship Programs The National Academies 500 Fifth Street, NW [GR 322A] Washinton, DC 20001	website www.national-academies.org/rap	Research Associateship Programs The National Academies 2001 Wisconsin Avenue, NW [GR 322A] Washington, DC 20007

THE NATIONAL ACADEMIES
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Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Peachman	**Kristina**	**K.**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **Res** Street **3432 Memphis Lane** City, State Zip **Bowie, MD 20715**	**Phone: 301-464-2376** **Phone: 301-251-5076** **E-mail: kpeachman@hivresearch.org**

3) *Today's Date*	*Dates of Tenure*
December 13, 2004	from **June 1, 2001** to **November 30, 2004**

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**WRAIR**	**Biochem/Memb Biochem & Retro/Vaccine Pr**

5) *Name of Research Associateship Programs Adviser*

Carl Alving and Mangala Rao

6) *TITLE OF RESEARCH PROPOSAL*

Transcutaneous Immunization: Gene-Based / Adjuvant Modalities / DC Trafficking

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) DNA vaccination through transcutaneous immunization (TCI) is feasible and induces broad immunological responses.

2) GM1 binding peptides servesas a novel adjuvant for transcutaneous immunization.

3) Soluble and particulate antigens traffic to the trans-Golgi in human and murine dendritic cells, whereas, in human and in murine macrophages only particulate antigens traffic to the trans-Golgi.

4) Cholesterol is needed for the presentation of liposome-encapsulated antigen on MHC class I in murine macrophages.

5) Provisional Patent "Penetration of Skin by Smart Cells for Delivery of Drugs and Vaccines". (Sumitted in May 2004)

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

Studies are ongoing to further optimize DNA delivery through transcutaneous immunization using pVAX-HIV p-24 as the antigen for the DNA antigen and HIV p-24 as the protein antigen in prime-boost combinations. Additional studies are investigating antigen processing and presentation of fluoresently labeled pathogens in both murine and human macrophages and dendrictic cells. The intiation of cellular immune assays for these studies are also in progress. Work is continuing on the provisional patent data on Smart cells for delivery of drugs and vaccines. These studies are evaluating immunization-boosting regimens and optimizing adjuvant usage.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Peachman, K.K., Rao, M., Alving, C.R., Palmer, D.R., Zidanic, M., Sun, W. and Rothwell, S.W. (2004). Functional Microtubules are Required for Antigen Processing by Macrophages and Dendritic Cells. Immunology Letters. 95(1):13-24.

Peachman, K.K., Rao, M., Alving, C.R., Palmer, D.R., Sun, W. and Rothwell, S.W. Human Dendritic Cells and Macrophages Exhibit Different Intracellular Processing Pathways for Soluble and Liposome-Encapsulated Antigens. Submitted to Immunobiology.

Ader, D.B., Celluzzi, C., Bisbing, J., Gilmore, L., Gunther, V., Peachman, K.K., Rao, M., Barvir, D. Sun, W., and Palmer, D.R. (2004). Modulation of Dengue Virus Infection of Dendritic Cells by Aedes aegypti Saliva. Viral Immunology 17(2): 252-265 .

Rao, M., Peachman, K.K., Alving, C.R. and Rothwell, S.W. (2003). Depletion of Cellular Cholesterol Interferes with Intracellular Trafficking of Liposome-Encapsulated Ovalbumin. Immunology and Cell Biology. 81; 415-423.

Peachman, K.K., Rao, M. and Alving, C.R. (2003). Immunization with DNA through the Skin. Methods. 31(3): 232-242.

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

K.K. Peachman, C.R. Alving and M. Rao. GM1 Binding Peptides: A Novel Adjuvant for Tanscutaneous Immunization. In preparation. To be submitted shortly.

M. Rao, K.K. Peachman, D.M. McGough, C. R. Alving, and G.R. Matyas. Immunization with Liposome-Encapsulated Ebola Peptide Induces Humoral and Cellular Immune Responses in Mice. In preparation.

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

Rao, M., Alving, C.R., Peachman, K.K., Rothwell, S.W.: Penetration of Skin by Smart Cells for Delivery of Drugs and Vaccines. Provisional Patent Filed May 2004.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

S.W. Rothwell, K.K. Peachman, C.R. Alving and M. Rao. Cytological Changes in Macrophage Plasma Membrane Following Cholesterol Depletion. Molecular Biology of the Cell vol 12 p346a. 2001 41st Annual Meeting of the American Society for Cell Biology in Washington, DC.

K.K. Peachman, R. Owens, T. Vancott, C.R. Alving and Mangala Rao. Induction of Th1, Th2 and Mucosal Responses to HIV Antigens by Transcutaneous Immunization. (Talk) Keystone Symposia Gene-Based Vaccines: Mechanisms, Delivery Systems and Efficacy. April 2002. Breckenridge, CO.

K. K. Peachman, C. R. Alving, M. Rao, S. W. Rothwell. Intact Functional Microtubules are Required for Liposome Antigen Presentation. Molecular Biology of the Cell vol 13 p474a. 2002 42nd Annual Meeting of the American Society for Cell Biology in San Francisco, CA.

K.K. Peachman, M. Rao, D.R. Palmer, W. Sun, C.R. Alving and S.W. Rothwell. Differences in Localization of Free and Liposome-Encapsulated Antigens in Macrophages and Dendritic Cells. Keystone Symposia Dendritic Cells: Interfaces with Immunobiology Medicine. March 2003. Keystone, CO.

M. Rao, K.K. Peachman, D.M. McGough, E.B. Morrison, C. R. Alving, and G.R. Matyas. Immunization with Liposome-Encapsulated Ebola Peptide Induces Humoral and Cellular Immune Responses on Mice. American Society of Microbiology Biodefense Meeting. March 2003. Baltimore, MD.

G.R. Matyas, M. Rao, K. K. Peachman, R. M. Owens, J. Yu, S. Hammond, G.M. Glenn, A. Friedlander, T. Vancott, D.L. Birx and C. R. Alving. A Needle-Free Skin Patch Vaccination Method for Infectious Diseases and Biological Threat Agents. American Society of Microbiology Biodefense Meeting. March 2003. Baltimore, MD.

K.K. Peachman, S.W. Rothwell, C.R. Alving, D.R. Palmer, W. Sun and M. Rao. Differential Localization of Liposomal Antigen in Macrophages and Dendritic Cells: Role of Microtubules in Intracellular Trafficking. (Talk) 90th American Association of Immunologists Conference, Denver, CO (2003).

K.K. Peachman, M. Rao, C.R. Alving, D.R. Palmer, W. Sun and S.W. Rothwell. Intracellular Trafficking of Irradiated Ebola Virus to the Trans-Golgi in Human Dendritic Cells. Molecular Biology of the Cell. 14: 380a (2003). 43rd Annual Meeting of the American Society for Cell Biology in San Francisco, CA.

K. K. Peachman, D. M. Maclean, J. Halbach, C. R. Alving, V. B. Rao and M. Rao. A novel prime-boost transcutaneous immunization strategy for DNA vaccination using HIV-1 p24 DNA. Experimental Biology Meeting in Washington, DC (2004).

K. K. Peachman, S. W. Rothwell, D. R. Palmer, C. R. Alving, W. Sun and M. Rao. Intracellular Trafficking of Dengue Virus to the Trans-Golgi in Human Dendritic Cells. American Society of Microbiology Meeting. New Orleans, LA (2004).

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

Keystone Symposia Gene-Based Vaccines: Mechanisms, Delivery Systems and Efficacy. April 2002. Breckenridge, CO. Travel Award.

14) *POST-TENURE POSITION TITLE*

Post-Doctoral Fellow

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

Walter Reed Army Institute of Research, Division of Retrovirology, Department of Vaccine Production and Delivery
13 Taft Court Suite 200
Rockville, MD 20850

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☒ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center **WRAIR**
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☐ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity
Comments:
I was quickly and smoothly transitioned in to the lab were I developed my scientific skills in both the laboratory setting and the professional communication setting including speaking at lab meetings, national meetings and by publishing in peer-reviewed scientific journals.

8 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
To date my Associateship award has broadened my networking capacity, my marketability by providing training in the new field of transcutaneous immunization and also in the new and growing area of bioterrorism research.

Administrative Support

10 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the Research Associateship Programs staff **(Leave blank, if not applicable – e.g., NIST)**
Comments:
The quality of support that I received form the lab was outstanding. It was a great environment for scientific development. The lab was supportive of new assay development and was encouraging in publication goals. The environment encouraged the attendence of meeting for finding and gathering of the latest methods and information in areas pertinent in by project. The research associateship program staff at both the local site and at the main office were very helpful.

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

The information that I was supplied for an extention of an additional year was not consistent between local and national personnel and needs to be presented clearly in a written form not just verbal descriptions. I was told that I should have a project which was slightly like the original project but was mainly different. The application I submitted was following national suggestions which seemed to be the opposite of how reviewers were told to evaluate the application since they said that it was too different from the original project. Additionally, the NRC homepage is very obtuse and hard to navigate. Getting to the associate site and then to the electronic forms was always a challenge and less than a pleasant experience. The electronic forms for travel and reimburstment on the other hand were easy to fill out and very user friendly. The update/Final reports were somewhat limiting in the way the program was written in that it prohibited the length of certain lines such as division/department.

Research Associateship Programs
The National Academies
500 Fifth Street, NW [GR 322A]
Washington, DC 20001

202 – 334 – 2759

website
www.national-academies.org/rap

Research Associateship Programs
The National Academies
2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20007

n:\AO Forms	Research Associateship Programs	Rev. 09/2003
ID#	cc:	cost-center #

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Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
SALLUM	MARIA	A.M.

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. **Walter Reed Biosystematics Unit** Street **4210 SILVER HILL ROAD** City, State Zip **SUITLAND, MD, 20746**	**Phone: 55-11-30667731** **Phone: 55-11-30812108** **E-mail: masallum@usp.br**

3) *Today's Date*	*Dates of Tenure*
August 25, 2004	from August 1, 2003 to 27th August 2003

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
CDRH	WRAIR	WRBU

5) *Name of Research Associateship Programs Adviser*

Richard C. Wilkerson

6) *TITLE OF RESEARCH PROPOSAL*

Revision and phylogeny of the Leucosphyrus Group of the Anopheles (Cellia) (Diptera: Culicidae).

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) ONE PAPER HAS BEEN SUBMITTED AND IS ACCEPTED FOR PUBLICATION IN MEDICAL AND VETERINARY ENTOMOLOGY, U.K. REGARDING THE DESCRIPTION OF SIX NEW SPECIES OF THE LEUCOSPHYRUS GROUP OF ANOPHELES (CELLIA) (DIPTERA: CULICIDAE). THIS IS A MORPHOLOGICAL STUDY.

2) THE COMPLETE REVISION ARY STUDY OF THE LEUCOSPHYRUS GROUP IS DONE AND AT THIS MOMENT IS BEING FRIENDLY REVIWED BY MOSQUITO TAXONOMISTS. IT IS GOING TO BE SUBMITTED IN SEPTEMBER 2004. THE MS IS 320 PAGES, 64 ILLUSTRATIONS, 46 TABLES.

3) ANOTHER MANUSCRIPT REGARDING O ANOPHELES ALBITARSIS IS ALSO DONE AND IS GOING TO BE SUBMITTED FOR PUBLICATION IN SEPTEMBER 2004. THE GROUP INVOLVED IN THE STUDY IS ANOPHELES ALBITARSIS COMPLEX. THIS IS A MOLECULAR STUDY.

4) FOR THE LEUCOSPHYRUS GROUP, SEQUENCES OF TWO MITOCHONDRIAL GENES (COX1 AND NADH6) HAVE BEEN MADE AND NOW IS BEING ANALYZED, 19 SPECIES FOR THE COI AND 15 SPECIES FOR THE NADH6.

5)

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

NUCLEOTIDE SEQUENCES OF TWO MITOCHONDRIAL GENES (COI AND NADH6) FOR 15-19 SPECIES OF THE LEUCOSPHYRUS GROUP HAVE BEEN COLLECTED AND CURRENTLY ARE BEING ANALYZED. I EXPECT TO FINISH THE ANALYSIS AND A MANUSCRIPT UNTIL END OF OCTOBER 2004 AND SUBMIT FOR PUBLICATION UNTIL END OF NOVEMBER 2004.

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

M. A. M. SALLUM, E. L. PEYTON & R. C. WILKERSON. 2004. Six new species of the Anopheles leucosphyrus group, with reinterpretation of An. elegans and vector implications. Med. Vet. Entomol. (ACCEPTED; IN PRESS).

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

1) M. A. M. SALLUM, E. L. PEYTON & R. C. WILKERSON. 2004. Revision of the Leucosphyrus Group of Anopheles (Cellia) (Diptera: Culicidae).

2) R.C. WILKERSON, P.G. FOSTER, M. A. M. SALLUM, C. LI. 2004. Molecular phylogeny of the An. albitarsis (Diptera: Culicidae) complex.

3) M. A. M. SALLUM, P.G. FOSTER, R.C. WILKERSON, C. LI. 2004. Evolution and molecular phylogeny of the Leucosphyrus Group of Anopheles (Cellia).

10) *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

Conference ate the 70th Annual Meeting of the American Mosquito Control Association
Savanah, Georgia. Savanah International Trade & Convention Center, February 21-February 26 2004.

Molecular phylogeny of the Albitarsis Complex (Diptera: Culicidae) based on mitochondrial and ribosomal DNA sequences.

Richard C. Wilkerson & Maria Anice M. Sallum

Two species of the complex An. albitarsis are of great epidemiological importance as competent vectors of human malaria parasites in Brazil, An. marajoara and An. deaneorum. Because of its medical importance, An. albitarsis l.s. has been the subject of intensive studies aimed at facilitating the identification of species as well as the confirmation of the vector status of its representative. Wlikerson et al. (1995a,b) used RAPD method to confirm the existence of 4 species within the complex An. albitarsis. Nucleotide sequences of the mitochondrial COI and NADH4 genes, and the expansion D2 of the 28S and ITS2 of the nuclear ribosomal RNA were used to estimate phylogenetic relationships within the An. albitarsis complex. Maximum likelihood analysis of the combined ribosomal and mitochondrial data under the TVM + I model yielded a single most likely tree, which is nearly identical with the strict consensus tree determined from parsimony analysis. Bayesian phylogenetic approach strongly supports the same major groups recovered in the parsimony and likelihood analyses. The monophyly of the An. albitarsis complex as well as the sister-group relationship of An. deaneorum and An. marajoara is strongly supported, as is the group consisting of An. albitarsis and An. albitarsisB.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

PROFESSOR.

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

UNIVERSIDADE DE SAO PAULO, BRAZIL

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☐ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☐ Research/Teaching at US College/University
- ☒ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity

Comments:

The Walter Reed Biosystematics Unit has excellent conditions to develop research skills, knowledge and high productivity. The mosquito collection of the target group is complete, and includes specimens from a broad distribution range of each species, the specimens are in excelent condition and very well curated. This provided to me the oportunity to start and finish my project in 13 months of my tenure, and also improved my knowledgment in molecular techniques.

10 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

The results of my studies will have a positive impact in the knowledgment of the dynamics of malaria transmission in southeast Asia, since other vector species are, in fact, involved in the epidemiology of the transmission and thus it will be important to be able to identify the vectors correctly in each area. The identification of the species, including those that are vectors of primate Plasmodium parasites , was the main objective of my study.

Administrative Support

10 Quality of the support you received from the federal Laboratory

___ Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives **(Leave blank, if not applicable – e.g., NIST)**

Comments on both/either:

XXXXX

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

To increase the salary will be very very important, especially for those who have to pay more than 30% of the income in federal tax in addition to state tax. Also, the fellows are interested in accomplish their project and usually work more than 12 hours a day and give a great contribution to the host laboratory. Not only the contribution of the lab to the NRC fellow but also the contribution of the NRC fellow to the scientific productivity of the laboratory should be considered.

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Print Layout View

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) *Associate Last or Family Name*	*First Name*	*M.I.*
Wenke	**Joseph**	**C.**

2) *FORWARDING Address* (to which your tax statement will be mailed)	*FORWARDING Phone(s) and E-Mail* (if known)
Res. or Inst. Street **4002 Tropical** City, State Zip **San Antonio, TX 78218**	**Phone: 210-916-3742** **Phone: 210-710-9508** **E-mail: joseph.wenke@cen.amedd.army.mil**

3) *Today's Date*	*Dates of Tenure*
June 29, 2004	from to

4) *Agency*	*Laboratory or NASA Center*	*Division / Branch / Directorate*
AMRMC	**ISR**	

5) *Name of Research Associateship Programs Adviser*

Victor A. Convertion

6) *TITLE OF RESEARCH PROPOSAL*

Antimicrobial Bone Graft Substitutes

7) *SUMMARY OF RESEARCH DURING TENURE* **Itemize significant findings in concise form, utilizing key concepts/words.**

1) Bioresorbable bone graft substitutes that have osteoinductive and osteoconductive characteristics are capable of preventing infection in contaminated bone defects as well as the current standard of care.

2) A model for evaluating different irrigation fluids and devices have been developed.

3) Pulse lavage irrigation reduces more bacteria than pulse lavage.

4) Adding a surfactant to irrigation fluids reduces the bacteria quantity more than the current standard of care (saline).

5)

8) *RESEARCH IN PROGRESS* **Describe in no more than 100 words.**

The ability of various bone growth factors (PDGF-BB and FGF-basic) to accelerate bone regeneration is

9) *PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) **Publications in peer-reviewed journals**

Beardmore, A.A., D.E. Brooks, J.C. Wenke, D.B. Thomas. Effectiveness of local antibiotic delivery with osteoinductive osteoconductive bone-graft substitutes. (Accepted by J. Bone Joint Surgery on June 27, 2004).

b) **Books, book chapters, other publications**

c) **Manuscripts in preparation, manuscripts submitted**

- **Wenke, J.C., T.J. Walters, A.E. Pusateri, D.J. Greydanus, and V.A. Convertino. Physiological Evaluation of the One-Handed Tourniquet. (Submitted to Mil Med).**
- **Kragh, J.F., S.J. Svoboda, J.C. Wenke, D.E. Brooks, T.G. Bice, and T.J. Walters. The role of epimysium in suturing skeletal muscle lacerations. (Submitted to J Ortho Res).**
- **Thomas, D.B., D.E. Brooks, K.T. Longerghan, E.S. DeJong, J.C. Wenke. Treatment of a contaminated tibial defect with an antimicrobial bone graft. (In preparation for submission to CORR).**
- **Kragh, J.F., D.G. Baer, S.J. Svoboda, J.C. Wenke, J.A. Ward, T.J. Walters. Biomechanical testing of suture repair for lacerated skeletal muscle. (Submitted to J Surg Res).**
- **Kragh, J.F., S.J. Svoboda, J.C. Wenke, J.A. Ward, T.J. Walters. Passive biomechanical properties of sutured mammalian muscle lacerations. (Submitted to J Invest Res)**

10) *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH*
Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* **Include dates, names and locations of seminars.**

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *POST-TENURE POSITION TITLE*

15) *POST-TENURE ORGANIZATION* **Provide name and address of organization.**

16) *POST-TENURE POSITION STATUS / CATEGORY* **Please indicate only one.**

- ☒ Remain at Host Agency as Permanent Employee
- ☐ Remain at Host Agency as Contract/Temporary Employee
  Abbreviate Host Laboratory/Center _____
- ☐ Research Position at Another US Government Laboratory
- ☐ Administrative Position at US Government Laboratory
- ☐ Research Position at Foreign Government Laboratory
- ☐ Research/Teaching at US College/University
- ☐ Research/Teaching at Foreign College/University
- ☐ Research/Administration in Industry
- ☐ Research/Administration in Non-Profit Organization
- ☐ Postdoctoral Research
- ☐ Self Employed
- ☐ Other: **specify** _____

17) *APPRAISAL OF RESEARCJ ASSOCIATESHIP PROGRAM* **Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**

Your experience as a National Academies Research Associate in this federal Laboratory

7 Short-term value: development of knowledge, skills, and research productivity
Comments:
My primary responsibilities are in an area of research that I have very little experience in (Orthopaedic Trauma). It has taken some time to become familiar with the literature in this area. Also, the research that has traditionally been done at ISR is very applied. The facilities, equipment, and money to perform research is exceptional and the pendulum is starting to swing towards basic research.

10 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
I have taken a permament postion here at ISR, which was my goal when I applied for this fellowship. I believe that we have both the ability and potential to make a big impact on reducing the morbidity associated with combat-related orthopaedic trauma not only through the research that we conduct at ISR but also through collaborations and directing external funding.

Administrative Support

8 Quality of the support you received from the federal Laboratory

___ Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives **(Leave blank, if not applicable – e.g., NIST)**
Comments on both/either:

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.*

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The National Academies		The National Academies
500 Fifth Street, NW [GR 322A]	website	2001 Wisconsin Avenue, NW [GR 322A]
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